





IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Chen, et al.

Serial No.: 10/712,690

Confirmation No.: Unknown

Filed:

November 13, 2003

For:

Apparatus and Method for

Hybrid Chemical

Processing

Group Art Unit: Unknown

Examiner:

Unknown

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

CERTIFICATE OF MAILING 37 CFR 1.8

I hereby certify that this correspondence is being deposited on 2003 with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner

12/12/2003

for Patents, P.O. Box 1450 Alexandria

Signature

INFORMATION DISCLOSURE STATEMENT

The Applicants, and the Attorney who signs below on the basis of the information supplied by the inventor and the information in his file, submit herewith patents, publications, or other information of which they are aware, which may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR § 1.56.

While the information submitted in this Information Disclosure Statement may be material pursuant to 37 CFR § 1.56, it is not intended to constitute an admission that any patent, publication, or other information referred to therein is prior art for this invention unless specifically designated as such.

In accordance with 37 CFR § 1.97, this Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other possibly material information as defined under 37 CFR § 1.56(a) exists.

The patents and/or publications submitted herewith are set forth on the attached Form PTO-1449.

The Applicants do not feel that a fee is necessary at this time, but if the sum of \$180.00 is due under 37 CFR § 1.17(p) pursuant to § 1.97, the Commissioner is hereby authorized to charge this fee, and any other fee necessary to make this submission timely, to the Deposit Account No. 20-0782/APPM/6766/BTP.

Respectfully submitted,

Robb D. Edmonds

Registration No. 46,681

MOSER, PATTERSON & SHERIDAN, L.L.P.

3040 Post Oak Blvd., Suite 1500

Houston, TX 77056

Telephone: (713) 623-4844 Facsimile: (713) 623-4846 Attorney for Applicants

| Ü.Ş. Depar (PTO Form | traient of | Commerce, Pa | tent and Trader | | Docke | | | Serial No. | | |
|---|------------|--------------------|-----------------|----------------------|---------------|---------------|-----------|----------------------------|--|--|
| | | | | | | 1/6766 | | 10/712,690 | | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT | | | | | | ant et al. | | Confirmation No. | | |
| (Use several sheets if necessary) | | | | | | Date | | Group | | |
| Examiner Unknown | | | | | | nber 1 | 3, 2003 | | | |
| U.S. Paten | t Docui | nents | | | | | · | | | |
| *Examiner Initial | | Document Number | Issue Date | Applicant(s) Name | | Class. | Subclass | Filing Date If Appropriate | | |
| | A1 | 6,551,406 | 04/22/2003 | KILPI | | 118 | 728 | 12/27/2000 | | |
| | A2 · | 6,511,539 | 01/28/2003 | RAAIJMAKERS | | 117 | 102 | 09/08/1999 | | |
| | A3 | 6,482,733 | 11/19/2002 | RAAIJMAKERS, ET | AL | 438 | 633 | 04/26/2001 | | |
| | A4 | 6,482,262 | 11/19/2002 | ELERS, ET AL. | | 117 | 84 | 10/13/2000 | | |
| | A5 | 6,481,945 | 11/19/2002 | HASPER, ET AL. | SPER, ET AL. | | 217 | 06/04/1999 | | |
| | A6 | 6,478,872 | 11/12/2002 | CHAE, ET AL. | AL. | | 88 | 12/20/1999 | | |
| | A7 | 6,475,910 | 11/05/2002 | SNEH | Н | | 685 | 09/22/2000 | | |
| | A8 | 6,475,276 | 11/05/2002 | ELERS, ET AL. | ELERS, ET AL. | | 84 | 10/13/2000 | | |
| | A9 | 6,468,924 | 10/22/2002 | LEE, ET AL. | | 438 | 763 | 05/31/2001 | | |
| | A10 | 6,451,695 | 09/17/2002 | SNEH | | 438 | 685 | 12/22/2000 | | |
| | A11 | 6,451,119 | 09/17/2002 | SNEH, ET AL. | | 118 | 715 | 11/29/2000 | | |
| | A12 | 6,447,607 | 09/10/2002 | SOININEN, ET AL. | | 117 | 200 | 12/27/2000 | | |
| | A13 | 6,416,577 | 07/09/2002 | SUNTOLOA, ET AL | -• | 117 | 88 | 12/09/1998 | | |
| | A14 | 6,399,491 | 06/04/2002 | JEON, ET AL. | | 438 | 680 | 04/06/2001 | | |
| | A15 | 6,391,785 | 05/21/2002 | SATTA, ET AL. | | 438 | 704 | 08/23/2000 | | |
| - | A16 | 6,379,748 | 04/30/2002 | BHANDARI, ET AL. | • | 427 | 255.394 | 01/17/2000 | | |
| - | A17 | 6,372,598 | 04/16/2002 | KANG, ET AL. | | 438 | 399 | 06/16/1999 | | |
| | A18. | 6,358,829 | 03/19/2002 | YOON, ET AL. | | 438 | 597 | 09/16/1999 | | |
| | A19 | 6,348,376 | 02/19/2002 | LIM, ET AL. | | 438 | 253 | 01/19/2001 | | |
| | A20 | 6,342,277 | 01/29/2002 | SHERMAN | | 427 | 562 | 04/14/1999 | | |
| | A21 | 6,306,216 | 10/23/2001 | KIM, ET AL. | | 118 | 725 | 07/12/2000 | | |
| | A22 | 6,305,314 | 10/23/2001 | SNEH, ET AL. | | 118 | 723 R | 12/17/1999 | | |
| | A23 | 6,287,965 | 09/11/2001 | KANG, ET AL. | | 438 | 648 | 02/23/2000 | | |
| | A24 | 6,284,646 | 09/04/2001 | LEEM | | 438 | 629 | 08/19/1998 | | |
| | A25 | 6,270,572 | 08/07/2001 | KIM, ET AL. | | 117 | 93 | 08/09/1999 | | |
| ·· | A26 | 6,231,672 | 05/15/2001 | CHOI, ET AL. | | 118 | 715 | 05/18/1999 | | |
| | A27 | 6,207,487 | 03/27/2001 | KIM, ET AL. | | 438 | 238 | 10/12/1999 | | |
| Examiner | | | | | | Date | Considere | d | | |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

| J.S. Depar | tmente | Commerce, P | atent and Trade | emark Office | Dock | et No. | | Serial No. |
|----------------------|-------------|---------------------------|-----------------|----------------------------------|-----------------|------------------|----------|-------------------------------|
| PTO Form | | | | | APPN | <i>I</i> I/6766 | | 10/712,690 |
| | | Applicant Chen, et al. | | | Confirmation No | | | |
| Use sever | al sheet | s if necessary) | | F | Filing | Date | | Group |
| | | | nknown | ľ | Nove | mber 1 | 3, 2003 | |
| U.S. Paten | t Docur | nents | | | , | | | |
| *Examiner Initial | | Document Number | Issue Date | Applicant(s) Name | | Class | Subclass | Filing Date If Appropriate |
| | A1 | 6,203,613 | 03/20/2001 | GATES, ET AL | . 1 | 117 | 104 | 10/19/1999 |
| | A2 | 6,200,893 | 03/13/2001 | SNEH | 4 | 138 | 685 | 03/11/1999 |
| | А3 | 6,197,683 | 03/06/2001 | KANG, ET AL. | 4 | 138 | 643 | 09/18/1998 |
| | A4 | 6,183,563 | 02/06/2001 | CHOI, ET AL. | | 118 | 715 | 05/18/1999 |
| | A5 | 6,174,809 | 01/16/2001 | KANG, ET AL. | | 438 | 682 | 12/15/1998 |
| | A6 | 6,174,377 | 01/16/2001 | DOERING, ET AL. | . | 118 | 729 | 01/04/1999 |
| | A7 | 6,144,060 | 11/07/2000 | PARK, ET AL. | 1 | 257 | 310 | 07/31/1998 |
| | A8 | 6,139,700 | 10/31/2000 | KANG, ET AL. | 1 | 204 | 192.17 | 09/30/1998 |
| | A9 | 6,124,158 | 09/26/2000 | DAUTARTAS, ET AL | | 438 | 216 | 06/08/1999 |
| | A10 | 6,084,302 | 07/04/2000 | SANDHU | | 257 | 751 | 12/26/1995 |
| | A11 | 6,042,652 | 03/28/2000 | HYUN, ET AL. | | 118 | 719 | 09/07/1999 |
| | A12 | 6,015,917 | 01/18/2000 | BHANDARI, ET AL. SUNTOLA, ET AL. | | 556 | 12 | 01/23/1998 |
| | A13 | 6,015,590 | 01/18/2000 | | | 427 | 255.23 | 11/28/1995 |
| | A14 | 5,923,056 | 07/13/1999 | LEE, ET AL. | | 257 | 192 | 03/12/1998 |
| | A15 | 5,916,365 | 06/29/1999 | SHERMAN | 3 | 117 · | 92 | 08/16/1996 |
| | A16 | 5,879,459 | 03/09/1999 | GADGLI, ET AL. | | 118 | 715 | 08/29/1997 |
| | A17 | 5,855,680 | 01/05/1999 | SOININEN, ET AL. | | 118 | 719 | 11/28/1995 |
| | A18 | 5,835,677 | 11/10/1998 | LI, ET AL. | | 392 | 401 | 10/03/1996 |
| | A19 | 5,807,792 | 09/15/1998 | ILG, ET AL. | | 438 | 758 | 12/18/1996 |
| | A20 | 5,796,116 | 08/18/1998 | NAKATA, ET AL. | | 257 | 66 | 08/18/1998 |
| | A21 | 5,711,811 | 01/27/1998 | SUNTOLA, ET AL. | | 118 | 711 | 11/28/1995 |
| | A22 | 5,674,786 | 10/07/1997 | TURNER, ET AL. | | 437 ⁻ | 225 | 06/05/1995 |
| · | A23 | 5,503,875 | 04/02/1996 | IMAI, ET AL. | | 427 | 255.3 | 03/17/1994 |
| | A24 | 5,483,919 | 01/16/1996 | YOKOYAMA, ET AL | | 117 | 89 | 08/17/1994 |
| | A25 | 5,480,818 | 01/02/1996 | MATSUMOTO, ET A | NL: | 437 | 40 | 02/09/1993 |
| | A26 | 5,443,647 | 08/22/1995 | AUCOIN, ET AL. | | 118 | 723 ME | 07/11/1994 |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

| U.S. Depar | tment of | f Commerce, Pat | ent and Trader | mark Office | Dock | et No. | | Serial No. | |
|---------------------------------------|----------|--------------------|----------------|----------------------|------------------|------------------|----------|-------------------------------|--|
| PTO Form | 1449 n | nodified) | | | APP | W6766 | | 10/712,690 | |
| | | SCLOSURE STA | ATEMENT BY | APPLICANT | Appli Chen | cant , et al. | | Confirmation No | |
| (Use sever | al sheet | s if necessary) | | | Filing | Date | | Group | |
| <u>:</u> | ı | Examiner Unk | nown | * | Nove | mber 1 | 3, 2003 | | |
| U.S. Paten | t Docur | ments | - | | | | | | |
| *Examiner Initial | | Document Number | Issue Date | Applicant(s) Name | | Class | Subclass | Filing Date If Appropriate | |
| | A1 | 5,441,703 | 08/15/1995 | JURGENSEN | | 422 | 129 | 03/29/1994 | |
| | A2 | 5,374,570 | 12/20/1994 | NASU, ET AL. | | 437 | 40 | 08/19/1993 | |
| | A3 | 5,294,286 | 03/15/1994 | NISHIZAWA, ET A | AL. | 156 | 610 | 01/12/1993 | |
| | A4 | 5,281,274 | 01/25/1994 | YODER | | 118 | 697 | 02/04/1993 | |
| | A5 | 5,225,366 | 07/06/1993 | YODER | ₹ | | 108 | 06/22/1990 | |
| | A6 | 4,993,357 | 02/19/1991 | SCHOLZ | HOLZ | | 715 | 12/21/1989 | |
| | A7 | 4,834,831 | 05/30/1989 | NISHIZAWA, ET | NISHIZAWA, ET AL | | 611 | 09/04/1987 | |
| · · · · · · · · · · · · · · · · · · · | A8 | 4,413,022 | 11/1/1983 | SUNTOLA, ET AL | | 427 | 255.2 | 06/21/1979 | |
| | A9 | 4,389,973 | 06/28/1983 | SUNTOLA, ET AL | •• | 118 | 725 | 12/11/1981 | |
| | A10 | 4,058,430 | 11/15/1977 | SUNTOLA, ET AL | . | 156 | 611 | 11/25/1975 | |
| | A11 | 20030082296 | 05/01/2003 | ELERS, ET AL. | | 427 | 96 | 09/12/2002 | |
| | A12 | 20030075925 | 04/24/2003 | LINDFORS, ET AL. | | 285 | 367 | 06/28/2002 | |
| | A13 | 20030075273 | 04/24/2003 | KILPELA, ET AL. | | 156 | 345.33 | 08/14/2002 | |
| | A14 | 20030072975 | 04/17/2003 | SHERO, ET AL. | | 428 | 704 | 09/26/2002 | |
| | A15 | 20030049942 | 03/13/2003 | HAUKKA, ET AL. | | 438 | 778 | 08/22/2002 | |
| | A16 | 20030042630 | 03/06/2003 | BABCOKE, ET AI | | 261 | 121.1 | 09/05/2001 | |
| | A17 | 20030031807 | 02/13/2003 | ELERS, ET AL. | | 427 | 569 | 09/17/2002 | |
| | A18 | 20030013320 | 01/16/2003 | KIM, ET AL. | | 438 | 778 | 05/31/2001 | |
| | A19 | 20030004723 | 01/02/2003 | CHIHARA | | 704 | 260 | 01/29/2002 | |
| | A20 | 20020197402 | 12/26/2002 | CHIANG, ET AL. | | 427 | 255.39 | 08/05/2002 | |
| | A21 | 20020187256 | 12/12/2002 | ELERS, ET AL. | | 427 | 99 | 07/30/2002 | |
| <u></u> | A22 | 20020182320 | 12/05/2002 | LESKELA, ET AL | • | 427 | 250 | 03/15/2002 | |
| | A23 | 20020177282 | 11/28/2002 | SONG | | 438 | 300 | 12/18/2001 | |
| | A24 | 20020164423 | 11/07/2002 | CHIANG, ET AL. | | 427 | 255.28 | 05/03/2002 | |
| | A25 | 20020164421 | 11/07/2002 | CHIANG, ET AL. | | 427 | 248.1 | 05/03/2002 | |
| | A26 | 20020162506 | 11/07/2002 | SNEH, ET AL. | | 118 | 715 | 06/28/2002 | |
| | A27 | 20020155722 | 10/24/2002 | SATTA, ET AL. | | 438 | 704 | 04/15/2002 | |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

| J.S. Depart | měnt o | Commerce, Pat | Docket No. | | | Serial No. | | |
|----------------------|--------------|--------------------|-----------------------|----------------------|-----------------|------------|------------|-------------------------------|
| (PTO Form | | | | | API | PM/6766 | 10/712,690 | |
| NFORMAT | SCLOSURE STA | | olicant en, et al. | | Confirmation No | | | |
| Use sever | al sheet | s if necessary) | Fili | ng Date | | Group | | |
| | T i | Examiner Unk | nown | | Nov | vember 1 | 3, 2003 | |
| U.S. Patent | t Docui | ments | | | | | | |
| *Examiner Initial | | Document Number | Issue Date | Applicant(s) Name | | Class | Subclass | Filing Date If Appropriate |
| | A1 | 20020146511 | 10/10/2002 | CHIANG, ET AL. | | 427 | 248.1 | 10/24/2001 |
| | A2 | 20020144657 | 10/10/2002 | CHIANG, ET AL. | | 118 | 723 E | 10/03/2001 |
| | А3 | 20020144655 | 10/10/2002 | CHIANG, ET AL. | | 118 | 715 | 10/24/2001 |
| | A4 | 20020134307 | 09/26/2002 | CHOI | | 118 | 715 | 11/30/2000 |
| | A5 | 20020108570 | 08/15/2002 | LINDFORS | | 118 | 715 | 04/16/2001 |
| | A6 | 20020106536 | 08/08/2002 | LEE, ET AL. | • | | 702 | 02/02/2001 |
| | A7 | 20020104481 | 08/08/2002 | CHIANG, ET AL. | | 118 | 723 I | 03/19/2001 |
| | A8 | 20020098627 | 07/25/2002 | POMAREDE, ET | AL. | 438 | 149 | 08/31/2001 |
| | A9 | 20020094689 | 07/18/2002 | PARK | | 438 | 694 | 03/07/2002 |
| | A10 | 20020092471 | 07/18/2002 | KANG, ET AL. | | 118 | 715 | 01/16/2002 |
| | A11 | 20020086106 | 07/04/2002 | PARK, ET AL. | | 427 | 248.1 | 11/07/2001 |
| | A12 | 20020076837 | 06/20/2002 | HUJANEN, ET AL | • | 438 | 3 | 11/28/2001 |
| | A13 | 20020076508 | 06/20/2002 | CHIANG, ET AL. | | 427 | 569 | 12/19/2001 |
| | A14 | 20020076507 | 06/20/2002 | CHIANG, ET AL. | | 427 | 569 | 10/24/2001 |
| | A15 | 20020076481 | 06/20/2002 | CHIANG, ET AL. | | 427 | 8 | 10/24/2001 |
| | A16 | 20020073924 | 06/20/2002 | CHIANG, ET AL. | | 118 | 723 R | 10/24/2001 |
| | A17 | 20020068458 | 06/06/2002 | CHIANG, ET AL. | | 438 | 694 | 11/26/2001 |
| 0.00. | A18 | 20020066411 | 06/06/2002 | CHIANG, ET AL. | | 118 | 724 | 05/10/2001 |
| | A19 | 20020052097 | 05/02/2002 | PARK | | 438 | 507 | 05/03/2001 |
| | A20 | 20020048635 | 04/25/2002 | KIM, ET AL. | | 427 | 331 | 10/08/1999 |
| | A21 | 20020041931 | 04/11/2002 | SUNTOLA, ET AL | | 427 | 255.28 | 05/14/2001 |
| | A22 | 20020031618 | 03/14/2002 | SHERMAN | | 427 | .569 | 10/09/2001 |
| | A23 | 20020021544 | 02/21/2002 | CHO, ET AL. | | 361 | 200 | 08/07/2001 |
| • | A24 | 20020020869 | 02/21/2002 | PARK, ET AL. | | 257 | 306 | 12/20/2000 |
| | A25 | 20020007790 | 01/24/2002 | PARK | | 118 | 715 | 05/03/2001 |
| | A26 | 20020000598 | 01/03/2002 | KANG, ET AL. | | 257 | 301 | 07/26/2001 |
| | A27 | 20020000196 | 01/03/2002 | PARK | | 118 | 715 | 05/03/2001 |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

OTP E 2003 2013

| U.S. Depar | Dock | et No. | | Serial No. | | | | | | | |
|----------------------|----------|--------------------|---------------|----------------------|----------------|------------------|----------|------------|-------------------------------|-------------|--|
| (PTO Form | 1449 m | nodified) | | | APPN | <i>I</i> I/6766 | 3 | 10/712,690 | | | |
| INFORMAT | ION DI | SCLOSURE STA | ATEMENT BY A | APPLICANT | Applic Chen | cant , et al. | | Con | firmatio | on No. | |
| (Use sever | al sheet | s if necessary) | | | Filing | Date | | Gro | up | | |
| | E | Examiner Unk | nown | | Nove | mber | 13, 2003 | <u>.</u> | | | |
| U.S. Paten | l Docur | nents | | | | | , | | | | |
| *Examiner Initial | | Document Number | Issue Date | Applicant(s) Name | | Class | Subcla | ss | Filing Date If Appropriate | | |
| | A1 | 20010054769 | 12/27/2001 | RAAIJMAKERS, E | T AL | 257 | 758 | | 04/26 | /2001 | |
| | A2 | 20010054730 | 12/27/2001 | KIM, ET AL. | | 257 | 301 | | 05/23 | /2001 | |
| | A3 | 20010054377 | 12/27/2001 | LINDFORS, ET AL | L. | 117 | 104 | | 04/16 | /2001 | |
| | A4 | 20010042799 | 11/22/2001 | KIM, ET AL. | | 239 | 553 | 553 | | 02/02/2001 | |
| | A5 | 20010042523 | 11/22/2001 | KESALA | | 122 | 6.6 | | 05/14/2001 | | |
| | A6 | 20010041250 | 11/15/2001 | WERKHOVEN, ET AL. | | 428 | 212 | 212 | | 03/06/2001 | |
| | A7 | 20010034123 | 10/25/2001 | JEON, ET AL. | | 438 | . 643 | 643 | | /2001 | |
| | A8 | 20010028924 | 10/11/2001 | SHERMAN | | 427 | 255.2 | 8 | 05/24/2001 | | |
| | A9 | 20010025979 | 10/04/2001 | KIM, ET AL | | 257 | 315 | | 12/04 | /2000 | |
| | A10 | 20010024387 | 09/27/2001 | RAAIJMAKERS, ET AL | | 365 | 200 | | 02/22 | /2001 | |
| | A11 | 20010014371 | 08/16/2001 | KILPI | | 427 | 255.2 | 8 | 12/27 | /2000 | |
| | A12 | 20010013312 | 08/16/2001 | SOININEN, ET AL. | | 117 | 86 | | 12/27 | /2000 | |
| | A13 | 20010011526 | 08/09/2001 | DOERING, ET AL. | | 118 729 | | | 01/16 | /2001 | |
| _, | A14 | 20010009695 | 07/26/2001 | SAANILA, ET AL. | | 427 | 255.3 | 9 | 01/18 | 3/2001 | |
| | A15 | 20010009140 | 07/26/2001 | BONDESTAM, ET AL. | | 118 | 725 | | 01/25 | /2001 | |
| | A16 | 20010002280 | 05/31/2001 | SNEH | SNEH | | 255.2 | 8 . | 12/22 | 2/2000 | |
| | A17 | 20010000866 | 05/10/2001 | SNEH, ET AL. | • | 118 | 723 F | } | 11/29 | /2000 | |
| F reign Pa | atent D | ocuments | | · | | | | | | | |
| *Examiner | | Document | Date | Country | Class | s | Subclass | | Transla | tion | |
| Initial | | Number | | <u> </u> | | | • | Y | ES | NO | |
| | B1 | WO 02/45167 | 06/06/2002 | WO . | H01 | L | 27/00 | |] | \boxtimes | |
| | B2 | WO 02/43115 | 05/30/2002 | WO | H01 | L | | | | \boxtimes | |
| | ВЗ | WO 02/08488 | 01/31/2002 | WO | C23 | C . | 16/44 | | | | |
| | B4 | WO 02/08485 | 01/31/2002 | wo | C23 | C | 16/00 | [| | \boxtimes | |
| | B5 | WO 01/66832 | 09/13/2001 | WO · | C30 | В | 25/14 | * [|] | | |
| | B6 | WO 01/36702 | 05/25/2001 | wo | C23 | С | 16/00 | | | | |
| Examiner | | | | | Date | Cons | idered | | | | |

| U.S. Depar | tment.o | Comperce, Pate | Docket N | lo. | Sheet 6 of 7 sheets Serial No. | | | | |
|--|----------|--------------------------------------|-------------|----------|--------------------------------|-------------|--------------------------------|-------------|--|
| (PTO Form | | | | | APPM/6 | 766 | 10/712,690 Confirmation No. | | |
| • | • | SCLOSURE STA | TEMENT BY A | PPLICANT | Applican Chen, et | | | | |
| (Use sever | al sheet | ts if necessary) | | | Filing Da | ite | Group | - | |
| ······································ | | Examiner Unkn | own | | Novemb | er 13, 2003 | - | | |
| F reign Pa | atent De | ocuments | | | | | • | | |
| *Examiner Initial | | Document Number | Date | Country | Class | Subclass | Transla | slation | |
| | B1 | WO 01/29893 | 04/26/2001 | wo | H01L | 21/768 | | | |
| <u> </u> | B2 | WO 01/29891 | 04/26/2001 | wo | H01L | 21/768 | | | |
| | B3 | WO 01/29280 | 04/26/2001 | wo | C23C | 16/32 | | | |
| | B4 | WO 01/27347 | 04/19/2001 | wo | C23C | 16/44 | | | |
| | B5 | WO 01/27346 | 04/19/2001 | wo | C23C | 16/44 | | \boxtimes | |
| ················· | B6 | WO 01/17692 | 03/15/2001 | wo | B05C | 11/00 | | | |
| | B7 | WO 01/15220 | 03/01/2001 | wo | H01L | 21/768 | | | |
| | B8 | WO 00/79576 | 12/28/2000 | wo | H01L | 21/205 | | X | |
| | В9 | WO 00/54320 | 09/14/2000 | wo | H01L | 21/44 | | | |
| | B10 | WO 00/16377 | 03/23/2000 | WO | H01L | | . 🗆 | | |
| | B11 | WO 99/65064 | 12/16/1999 | wo | H01L | 21/00 | | | |
| | B12 | WO 99/29924 | 06/17/1999 | WO | C23C | 16/04 | | | |
| | B13 | WO 99/01595 | 01/14/1999 | WO | C30B | 25/14 | | | |
| | B14 | WO 96/17107 | 06/06/1996 | wo | C23C | 16/44 | | × | |
| * | B15 | 58098917 (w/ English Abstract) | 06/26/1983 | JP | C23C | 16/40 | | | |
| - | B16 | 2001172767 | 06/26/2001 | JP | C23C | 16/40 | | | |
| | B17 | 2001-111000 | 04/20/2001 | JP | H01L | 21/316 | | | |
| | B18 | 2001020075 (Abstract Only) | 11/15/2000 | JP | C23C | 16/44 | | × | |
| | B19 | 2000319772 (Abstract Only) | 03/28/2000 | JP | C23C | 16/00 | | × | |
| | B20 | 6224138 (Abstract Only) | 05/31/1994 | JP | C30B | 25/14 | | | |
| | B21 | 5270997 (Abstract Only) | 10/19/1993 | JP | C30B | 29/68 | | × | |
| | B22 | 5234899 (Abstract Only) | 09/10/1993 | JP | H01L | 21/205 | | × | |
| Examiner | | · | | | Date Co | nsidered | | | |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

| The second second | | -CENAPA | | 1.00 | Docket N | · · · · · · · · · · · · · · · · · · · | Sheet 7 of | | |
|---|---------|--|---|--|---------------|---------------------------------------|--------------------------------------|----------------------------------|--|
| U.S. Department of Commerce, Patent and Trademark Office (PTO Form 1449 modified) | | | | | | | Serial No. | | |
| ` | | | | DD1 10 4 0 15 | APPM/6 | | 10/712,690 | | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT | | | | | | t :al. | Confirma | ition No. | |
| (Use sever | al shee | ts if necessary) | | | Filing Da | ate | Group | | |
| Examiner Unknown | | | | | | er 13, 2003 | | | |
| Foreign Pa | atent D | ocuments | | | | | | | |
| *Examiner | | Document | Date | Country | Class | Subclass | Transla | ation | |
| Initial | | Number | | | | * | YES | NO | |
| | B1 | 5206036 (Abstract Only) | 08/13/1993 | JP | H01L | 21/205 | | | |
| * | B2 | 5047666 (Abstract Only) | 02/26/1993 | JP | H01L | 21/205 | | × | |
| | В3 | 4291916 (Abstract Only) | 09/23/1992 | JP | C30B | 25/10B | | | |
| | B4 | 1 167 569 | 01/02/2002 | EP | C23C | 16/455 | | | |
| | B5 | 2 355 727 | 05/02/2001 | GB | C23C | 16/44 | | | |
| OTHER AF | RT. | • | | <u></u> | | · · · · · · · · · · · · · · · · · · · | | | |
| *Examiner Initial | | Including Author, Pertinent Pages, E | | | | | | | |
| | C1 | Kukli, <i>et al.</i> , "Ta Physics Letters, | • | | | | minates," | Applied | |
| | C2 | Kukli, <i>et al. "I</i> Ta(OC₂H₅)₅ and 1995; p. 1670-5 | d H₂O," Jour | | | | | | |
| | СЗ | Kukli, et al., "In From Ta(OC ₂ H ₅ | situ Study of A | | | | | | |
| | C4 | Kukli, et al., "Pr Layer Epitaxy," 300-6 | operties of Ta | a ₂ O ₅ -Based Die | electric Nano | laminates D | eposited b | y Atomic | |
| | C5 | Kukli, <i>et al.</i> , 'Nanolaminates | | | | | {Nb _{1-x} Ta _x } | ₂ O ₅ -ZrO | |
| | C6 | Ritala, M., et al. | | | | | | | |
| | C7 | Rossnagel, et Interconnect Di p2016-20 | | | | | | | |
| | C8 | Niinisto, et al. " for Advanced A | • | | | • | • | | |
| | C9 | Eisenbraum, et thickness copported interconnect Te | er barrier ap | plications," Pro | oceedings o | f the IEEE | | | |
| | C10 | Clark-Phelps, et for Ultrathin Die Soc. Symp. Pro | <i>t al.</i> "Engineer lectric Films w | ed Tantalum A vith Improved E | luminate and | Hafnium Al | | | |
| Examiner | | | | | Date Co | nsidered | | , | |
| | | f reference considere ormance and not cor | | | | | | | |